

Claims

1. A machine tool particularly for the synchronous machining of workpieces, said tool being comprised of

5 - two or more spindle units (2, 3), which run parallel in a machining unit for reception of tools, and
- repositioning devices (Vx, Vy, Vz) for precise adjustment of the position of the spindle units (2, 3) in relation to one another, preferably in all three directions x, y, and z of the orthogonal co-ordinate system in the machining unit (4),
10 **characterized in that**

the repositioning devices (Vx, Vy) for displacing at least one of the spindle units (2, 3) in at least one of the directions x and/or y consist of an eccentric bush (5, 6), which can be rotated about a central shaft (B1, B2) and locked and in which the spindle units (2, 3) are mounted eccentrically, parallel to said central shaft (B1, B2).

15 2. A machine tool according to Claim 1, **characterized in that** said repositioning devices (Vx, Vy, Vz) can be activated independently of each other and that the repositioning in the machining plane (x, y) each is executed by rotating said eccentric bushes (5, 6) and is superposed in one of the two spindle units (2, 3) by a movement in
20 z-direction.

3. A machine tool according to any of the preceding Claims 1 or 2, **characterized in that** the repositioning devices (Vx, Vy) attack tangentially at the outer rim of said eccentric bushes (5, 6).

25 4. A machine tool according to any of the preceding Claims 1, 2 or 3, **characterized in that** the repositioning devices (Vx, Vy, Vz) can be driven mechanically, electrically, or hydraulically.

30 5. A machine tool according to any of the preceding claims, **characterized in that** the repositioning devices (Vx, Vy) are comprised of retainer bolts (10) disposed parallel to the spindle axis and comprised of groove blocks (11) attacking said retainer bolts and being actuated by repositioning cylinders (12).

6. A machine tool according to any of the preceding claims, **characterized by** a measuring system (15) for recording the repositioning path of the groove blocks (11) disposed at said repositioning cylinders (12).
- 5 7. A machine tool according to any of the preceding claims, **characterized in that** the repositioning path in x, y direction lies in a range from 0.1 to 0.5 mm and in a range from 0.8 to 5 mm in z-direction.
- 10 8. A machine tool according to any of the preceding claims, **characterized in that** the repositioning can be controlled and regulated with an accuracy of < 1 μ m.